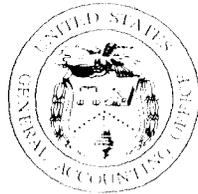


December 1989

# 1990 CENSUS

## Change in Minicomputer Acquisition Strategy



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General Government Division

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December 6, 1989

The Honorable David Pryor  
Chairman, Subcommittee on Federal  
Services, Post Office, and Civil Service  
Committee on Governmental Affairs  
United States Senate

The Honorable Jeff Bingaman  
Chairman, Subcommittee on Government  
Information and Regulation  
Committee on Governmental Affairs  
United States Senate

This report responds to the November 22, 1988, request from the Chairman, Subcommittee on Federal Services, Post Office, and Civil Service of the Senate Committee on Governmental Affairs that we provide an update on the developments of the procurement of minicomputers by the Bureau of the Census (Bureau) for the 1990 census. When the Committee's Subcommittee on Government Information and Regulation was formed at the beginning of the 101st Congress, its Chairman joined in the request.

In our June 1988 report Minicomputer Procurement Delays and Bid Protests: Effects on the 1990 Census (GAO/GGD-88-70), we discussed the Bureau's minicomputer procurement activities and recommended that the Bureau develop a formal contingency plan in the event that the minicomputer system did not operate properly.

## Results in Brief

Because of concerns raised during the 1988 Census Dress Rehearsal, the Bureau decided to avoid potential problems during the 1990 census by using a higher capacity minicomputer in the district offices than it had originally planned. To do this, and attempt to avoid an increase in the total cost of acquiring and maintaining the equipment, the Bureau elected to lease most, rather than buy all, of the minicomputers. The change of acquisition strategy has not delayed the delivery of the minicomputers, and no software modifications were required.

We calculated that the Bureau will spend about \$165,000 more for the later model minicomputers. This calculation included provisions for the power and maintenance savings claimed by the Bureau but did not incorporate residual value. It is difficult to make an accurate estimate of the future market value of this type of used equipment. The Bureau did

not consider residual value in its decision to change its acquisition strategy because it did not have a need for most of the minicomputers after the census. We believe that these minicomputers would have a residual value to other federal, state, or local government agencies or on the open market.

## Background

In our 1988 report, we said that incomplete plans for the 1990 Decennial Census' organization and procedures prevented the Bureau from fully identifying, documenting, and planning for its automated data processing needs and initiating the minicomputer procurement process in a timely manner. This late start was compounded by a 6-month delay in the Bureau's planned minicomputer procurement schedule and by two bid protests<sup>1</sup> that contributed to a decrease in the time available to develop and test software for the 1990 census.

In early 1986, the Bureau planned to buy an estimated 555 minicomputers of various sizes as well as equipment and services, primarily to support the 1990 Decennial Census.<sup>2</sup> About 450 of the smaller capacity minicomputers were to be used in the decennial census temporary district offices. Due to the delays in the procurement process, the Bureau could not award the minicomputer contract until May 1987, which was several months after the start of the 1988 Census Dress Rehearsal.<sup>3</sup> Because the minicomputers were not available for use in initial dress rehearsal operations and the Bureau did not have sufficient time to develop and test software, the Bureau experienced problems with some automated management information system reports in later stages of the dress rehearsal.

After issuance of our 1988 report, the Bureau changed its acquisition strategy for the procurement of the minicomputers to be used in the district offices for the 1990 Decennial Census. Instead of purchasing all of the district office minicomputers, the Bureau bought 105 and leased, with an option to buy, the remainder. These minicomputers were a later

<sup>1</sup>The first bid protest was resolved by a settlement between the Bureau and three offerors and resulted in a payment to the protesters totaling \$1.1 million. The second protest was withdrawn.

<sup>2</sup>The Bureau procured the minicomputers using an indefinite quantity contract that provided for a range of equipment, supplies, and services with a stated minimum (\$6.9 million) and a maximum amount (\$80 million) to be provided over a fixed period of time (6 years).

<sup>3</sup>A principal objective of the dress rehearsal was to test the automated system under census-like conditions.

model having a higher capacity. A modification was issued for this procurement change using the contract's new technology provision.

The Bureau's minicomputer acquisition strategy, other than for the district offices, has remained the same.

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## Objective, Scope, and Methodology

To determine the reason for the change in the Bureau's acquisition strategy from buying all, to leasing most, of the minicomputers and the current status of the procurement, we (1) reviewed the contractual documents, including the purchase orders and the modifications, which showed the cost for buying and leasing the minicomputers; (2) interviewed Bureau officials involved in the procurement and administration of the contract and the use of the equipment; and (3) interviewed a vendor official responsible for the administration of the contract. However, we did not review or validate the Bureau's analysis of the revised requirements.

We also reviewed the Bureau's automated data processing contingency plan developed in response to our recommendation.

Our work was done between May and August 1989 at the Bureau of the Census headquarters in Suitland, Maryland. Our work was done in accordance with generally accepted government auditing standards.

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## Change in the Bureau's Acquisition Strategy

As a result of concerns raised during the 1988 dress rehearsal, the Bureau changed its acquisition strategy for the minicomputers to be used in the district offices. According to an automation supervisor who worked in the dress rehearsal, the Bureau found that the operation of the central processing units in its minicomputers located in the district offices was slowed when several concurrent operations were being done. The Bureau was concerned that the district offices' minicomputers might not have sufficient speed (response time) and memory to handle the workload during full-scale decennial census operations. As a result, the Bureau considered the acquisition of a later model of the vendor's minicomputer that had more memory and speed. Other claimed advantages of the later model were that it (1) used significantly less power and (2) reduced maintenance costs. The vendor was amenable to this change because it wanted its equipment to satisfy the census needs; additionally, it preferred not to maintain older equipment.

To make this procurement change, and attempt to avoid an increase in the total cost of acquiring and maintaining the equipment, the Bureau elected to lease most, rather than buy all, of the district offices' mini-computers. An additional factor the Bureau considered in leasing most of the minicomputers was that it did not have a need for them after the decennial census. As a result, the Bureau changed its decision to buy the minicomputers, including peripheral equipment such as printers, disk drives, and cables, for the district offices at a cost of \$50,278 each. Instead, the Bureau has bought 105 of the later model minicomputers at a cost of \$74,365 each and has leased, with an option to buy, 362 at a cost of \$44,365 per system.<sup>4</sup> According to Bureau and vendor officials, prices were negotiated whereby the cost of the minicomputers, considering the reduced power requirements and maintenance, would be about the same as the original acquisition cost.

Our calculation, based on the Bureau's data, shows that the Bureau will spend about \$165,000 more for the later model minicomputers. Our calculations considered the power and maintenance savings claimed by the Bureau but did not consider residual value for the minicomputers. According to an official responsible for the Bureau's automation planning and acquisition, no provision was made for the residual value of the minicomputers because the Bureau did not have a planned use for all of the equipment after the 1990 Decennial Census. Although the Bureau may not need this equipment after the census, we believe that these minicomputers would have had a residual value to other federal, state, or local government agencies or on the open market. However, it is difficult to make an accurate estimate of the future market value of this type of used automated data processing equipment. Table I shows our calculation.

<sup>4</sup>Under this option, the Bureau may purchase the leased minicomputer configuration for an additional cost of about \$79,000. This price incorporates a percentage discount on the list price and the credit for the lease payments for a total cost of about \$123,000 per configuration. The fiscal year 1989 General Services Administration automated data processing schedule price list shows the Bureau's minicomputer configuration costs over \$125,000.

**Table 1: Cost Comparison of Minicomputer Strategy Change**

<b>Equipment</b>	<b>Later model</b>	<b>Original model</b>
Purchase price	\$74,365	\$50,278
Quantity	105	450
	\$7,808,325	
Lease price	\$44,365	
Quantity	362	
	16,060,130	
Equipment cost	\$23,868,455	\$22,625,100
<b>Power/maintenance savings</b>		
Power savings	\$308,055	
Maintenance savings	\$770,400	
Total savings		(\$1,078,455)
Total comparison cost	\$22,790,000	\$22,625,100

## Status of Procurement

According to the Bureau's contracting officer's technical representative, all the later model minicomputers have been ordered, and the acquisition change will not delay the arrival of the equipment. The first of the minicomputers were delivered to the district offices in November 1988, and delivery will continue through December 1989. Moreover, Bureau officials said that there are no software program changes needed as a result of the model change. The Bureau has also ordered all the larger capacity minicomputers to be used for decennial census activities.

According to an official responsible for the acquisition of automated data processing equipment, the Bureau is currently developing a plan for the location and use of the purchased minicomputers after the decennial census. A listing of the minicomputers purchased and leased under the minicomputer contract is shown in appendix I.

## Bureau's Contingency Plan

In response to our June 1988 recommendation, the Bureau developed a formal plan to identify contingencies it would consider in the event the software does not perform as expected during the 1990 Decennial Census. The plan describes processes already in place and additional options that will be considered in the event of systemic problems due to application software not working properly. The contingencies include reverting to manual processing for some operations, routing information to alternate systems or locations, and correcting the software. Although the plan does not provide specific steps to be followed, it allows for

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detailed plans to be documented separately as part of the Bureau's existing contingency planning process.

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## Agency Comments

We obtained the views of responsible agency officials, who concurred with the facts presented and provided comments on the current status of the procurement. Their comments were incorporated in the report.

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As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days after the date of issuance. At that time, we will send copies to the Secretary of Commerce and the Director of the Bureau of the Census. Copies will also be made available to other interested parties upon request. The major contributors to this report are listed in appendix II. If there are any questions about the information presented, please call me on 275-8676.



L. Nye Stevens  
Director, Government Business  
Operation Issues

# Listing of Minicomputers Purchased and Leased Under the Contract

Location	Unit Price <sup>a</sup>	Purchased	Leased
Processing Offices	\$249,600	5	
	123,327	20	
	5,447	2	
Test Site	249,600	1	
	123,327	3	
	32,304	1	
	5,447	3	
Headquarters	279,300	4	
	249,600	4	
	123,327	2	
	32,304	2	
	5,447	18	
Regional Census Centers	123,327	12	
	32,304	12	
	5,447	12	
Regional Offices	5,447	12	
Puerto Rico District Office	5,447	1	
District Offices	74,365 <sup>b</sup>	105	
	44,365 <sup>b</sup>		362
<b>Total</b>		<b>219</b>	<b>362</b>

<sup>a</sup>Average price for central processing unit. Cost does not include system upgrades or peripherals, such as printers.

<sup>b</sup>Price includes entire system configuration (e.g., central processing unit, disk drives, printers).

# Major Contributors

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